

WHAT IS CLAIMED IS:

1. A bottom cap for closing and hermetically sealing the open bottom end of a container, the bottom cap comprising:

a bottom wall having a peripheral portion;  
a side wall extending upwardly from said peripheral portion, said side wall having means for securing said bottom cap to the bottom end of the container; and

a continuous layer of sealant material bonded to said peripheral portion of said bottom wall, said sealant material being adapted to hermetically seal the bottom end of the container when said bottom cap is secured thereto.

2. The bottom cap of claim 1, wherein said sealant material has a Shore A Hardness from about 30 to about 60.

3. The bottom cap of claim 1, wherein said sealant material is a thermoplastic elastomer that has a Shore A Hardness from about 40 to about 50.

4. The bottom cap of claim 1, wherein said sealant material is a thermoplastic elastomer that has a Shore A Hardness about 45.

5. The bottom cap of claim 1, wherein said sealant material is fused to said peripheral portion.

6. The bottom cap of claim 1, wherein said peripheral portion has holes therethrough, and wherein said sealant material extends into said holes.

7. The bottom cap of claim 6, wherein said bottom wall has a bottom surface, and wherein said sealant material extending into said holes extends below said bottom surface of said bottom wall.

8. The bottom cap of claim 7, wherein said sealant material below said holes is in the form of an individual bead below each hole.

9. The bottom cap of claim 8, wherein said beads have peripheral edges that underlie said bottom surface of said bottom wall.

10. The bottom cap of claim 7, wherein said sealant material below said holes is in the form of an underlying continuous peripheral layer of said sealant material.

11. The bottom cap of claim 10, wherein said holes are positioned in an annular series and are circumferentially spaced from one another, and wherein said underlying continuous layer is bonded to said bottom surface of said peripheral portion.

12. A container assembly, comprising:

a container having an open bottom end with a downwardly directed sealing surface, and means for securing a bottom cap to said bottom end;

a bottom cap for closing and hermetically sealing said bottom end, said bottom cap having a bottom wall and an upstanding peripheral wall having means for securing said bottom cap to said bottom end; and

a continuous strip of compressible sealant material bonded to said container assembly, said strip being between said sealing surface and said bottom wall so that when said bottom cap is secured to said bottom end, said sealing surface compresses said strip against said bottom wall thereby forming a hermetic seal between said sealing surface of said container and said bottom cap.

13. The container assembly of claim 12, wherein said sealant material has a Shore A Hardness from about 30 to about 60.

14. The container assembly of claim 12, wherein said sealant material is a thermoplastic elastomer that has a Shore A Hardness from about 40 to about 50.

15. The container assembly of claim 12, wherein said sealant material is a thermoplastic elastomer that has a Shore A Hardness about 45.

16. The container assembly of claim 12, wherein said strip is bonded to said bottom wall of said bottom cap.

17. The container assembly of claim 12, wherein said strip is bonded to said sealing surface of said bottom end of said container.

18. The container assembly of claim 14, wherein said thermoplastic elastomer of said strip is fused to said bottom wall of said bottom cap.

19. The container assembly of claim 16, wherein said bottom wall has a bottom surface and a peripheral portion radially interior of said peripheral wall, said peripheral portion has an annular series of circumferentially spaced holes therethrough, and said sealant material of said strip extends through said holes, protrudes below said bottom surface, and has edges which underlie said bottom surface.

20. A container assembly, comprising  
a container having a threaded cylindrical bottom end with a downwardly directed sealing surface, and  
a bottom cap for closing and hermetically sealing a bottom end, said bottom cap having a bottom wall with a peripheral portion, and a threaded upstanding cylindrical peripheral wall for threadedly securing said bottom cap to said bottom end of said container, said peripheral portion of said bottom cap having an annular layer of compressible elastomeric sealant material fused thereto, said sealant material having a Shore A Hardness from about 30 to about 60, and said layer being adapted to be compressed by and thereby form a hermetic seal with said sealing surface when said bottom cap is threadedly secured to said bottom end of said container.

21. The container assembly of claim 20, wherein said elastomeric material is a thermoplastic elastomer that has a Shore A Hardness about 45.

22. The container assembly of claim 20, wherein said peripheral portion of said bottom wall has an annular series of openings therethrough, and said elastomeric sealant material is a thermoplastic elastomer that extends

through said openings, protrudes below, and underlies said bottom wall adjacent said openings.

23. The container assembly of claim 22, wherein said thermoplastic elastomer that underlies said bottom wall and is fused thereto.

24. A method of forming a bottom cap suitable for closing and hermetically sealing the bottom open end of a container body wall, comprising

forming said bottom cap of a first material, said bottom cap having a bottom wall with an upper surface, a peripheral portion, and a side wall extending upwardly from said peripheral portion, said side wall having internal threads for securing said bottom cap to the bottom open end of the container body wall, and

injecting a second material onto said bottom cap so that said second material forms an annular layer on said upper surface of said peripheral portion of said bottom wall, said second material being an elastomeric sealant material having a Shore A Hardness sufficient to render it compressible during use, said injection step being effected at a temperature and under conditions sufficient to fuse said layer of elastomeric sealant material to said first material of said peripheral portion.

25. The method of claim 24, wherein said forming step includes forming an annular series of circumferentially spaced holes through said peripheral portion of said bottom wall, and said injecting step includes flowing said sealant material through and below said holes so that said sealant

material below said holes has outer edges that underlie said bottom wall adjacent said holes.

26. The method of claim 25, wherein said injection step includes forming said sealant material that underlies said bottom wall as an annular layer, and fusing said annular layer to said bottom wall.

27. The method of claim 25, wherein said first material is comprised of polypropylene, and said sealant material is a thermoplastic elastomer having a Shore A Hardness from about 40 to about 50.